



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,653	07/30/2003	Takashi Murayama	033294-013	6855

21839 7590 12/02/2004

BURNS DOANE SWECKER & MATHIS L L P  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER
----------

NGUYEN, XUAN LAN T

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,653	<b>Applicant(s)</b> MURAYAMA, TAKASHI	
	<b>Examiner</b> Lan Nguyen	<b>Art Unit</b> 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carre et al. in view of Farr et al.

Carre et al. show a wedge-operated disc brake apparatus in figures 1-4, as in the present invention, comprising: a piston 32 accommodated within a cylinder portion 24 to be rotatable about and slidable along an axial direction of the piston and adapted to push a brake pad toward a brake rotor (not illustrated but inherent in a brake system); an actuator, motor 20, for generating a linear brake-actuating input; a wedge transmission mechanism 26 which is connected to the actuator so as to be driven thereby and to convert the linear brake-actuating input into a brake-actuating output in the axial direction of the piston, the brake-actuating output being transmitted to the piston so as to cause the piston to push the brake pad toward the brake rotor; and an automatic gap adjusting mechanism 44, 46 for automatically adjusting a gap between the brake pad and the brake rotor during a non-braking state, wherein the automatic gap adjusting mechanism includes an adjusting wheel 44 having ratchet teeth on an outer circumference thereof and provided on an outer circumference of an end portion

Art Unit: 3683

of the piston, an adjusting nut 32 provided on an inner circumference of the piston 32, an adjusting lever 46 having a pawl which is formed on an end of the lever and is engaged with the ratchet teeth of the adjusting wheel 44, the adjusting lever being rotated via a spring 52 by means of the brake-actuating input so as to rotate the adjusting wheel, and an adjusting bolt 34 threadingly engaged with the adjusting nut 32, the adjusting bolt being engaged with the brake pad to thereby be prevented from rotating. Carre's brake apparatus comprises the adjusting wheel 44 being located on an end away from the wedge transmission mechanism while the instant invention comprises an adjusting wheel being located on an end toward the wedge mechanism. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have located an adjusting wheel of Carre's brake apparatus on an end toward the wedge mechanism, since it has been held that rearranging of parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Carre shows the wedge 26 being pushed while the instant invention claims the wedge member being pulled. Farr et al. teach in figures 9, 10 and 13, a wedge member being pushed or pulled to actuate the brake. Note that the pushing or pulling motion of the wedge member accomplishes the same result of actuating the brake; and are considered to be equivalent alternative methods of actuating. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified Carre's brake apparatus to include a wedge member such as taught by Farr to effect a pulling force instead of a pushing force; since pushing or pulling the wedge member accomplishes the same result of actuating the brake as taught by Farr.

Re claim 2: Carre lacks the showing of spring 52 to be a coil spring. Carre shows the direction of tension of spring 52 to be approximately perpendicular to an axis of a support pin 48. The Examiner takes an Official Notice that the use of a coil spring for biasing a lever is an old and well known concept and would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted a coil spring for Carre's spring 52 in the brake apparatus since it would perform the same function and is more cost effective.

### ***Response to Arguments***

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments with respect to the double patenting rejection has been found persuasive. The rejection is hereby withdrawn.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 3683

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is 703-308-8347. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Nguyen  
Patent Examiner  
Art Unit 3683

*Lan Nguyen*  
11/18/04